

AMENDMENTS TO THE CLAIMS

1. (currently amended) A method for track locking in
an optical disc drive, the optical disc drive
5 comprising a pick-up device for reading data from
a plurality of tracks of an optical disc, the
optical disc comprising a plurality of adjacent
track periods, each track period comprising an
on-track period and an off-track period, the
10 on-track period comprising only one track, the
optical disc drive further comprising a driving
device for driving the pick-up device, and a
location detecting device for detecting a location
of the pick-up device and producing a tracking
15 error signal, the method comprising:
producing a corrected tracking error signal,
according to the tracking error signal, when
the pick-up device is located at a target
track related to the off-track period, the
20 corrected tracking error signal being
modified from a reference point onward, to
mirror the subsequent half cycle of the
tracking error signal; and
controlling the driving device to enable the
25 pick-up device to lock at the target track,
according to the corrected tracking error
signal[[:]].
2. (original) The track locking method of claim 1,
30 wherein a reference value of the tracking error
signal is obtained when the pick-up device is

located at a common border between the on-track period and the off-track period, and the mirror signal is obtained by taking the reference signal as a reference to convert the tracking error signal.

5

3. (original) The track locking method of claim 1, wherein in the step of producing the corrected tracking error signal, when the pick-up device is located at the off-track period related to the target track, the corrected tracking error signal is approximately proportional to a distance between the pick-up device and the target track.

10

4. (original) The track locking method of claim 3, wherein the step of producing the corrected tracking error signal further comprises:

15

when the access device is located at the on-track period of the target track, using the tracking error signal as the corrected tracking error signal.

20

5. (original) The track locking method of claim 1 further comprising:

25

differentiating a location of the pick-up device, according to a track cross signal.

6. (original) The track locking method of claim 5, wherein the track cross signal is a Radio Frequency Zero Cross (RFZC) signal.

30

7. (previously presented) An optical disk drive with

a pick-up device for reading data from a plurality of tracks of a compact disc, the compact disc comprising a plurality of adjacent track periods, each track period comprising an on-track period and
5 an off-track period, the on-track period having only one track, the optical disc drive comprising:

a driving device for driving the pick-up device;

a location detecting device electrically connected to the pick-up device for

10 detecting a location of the pick-up device and producing a tracking error signal,

wherein when the pick-up device is located at a common border between the on-track period and the off-track period, the

15 tracking error signal has a reference value;

a signal correcting unit electrically connected to the location detecting device for

producing a corrected tracking error signal according to the tracking error signal; and

20 a control device electrically connected to the signal correcting unit for controlling the driving device according to the corrected

tracking error signal;

wherein when the pick-up device is located within

25 the off-track period related to a target track, the corrected tracking error signal is modified from

a reference point onward to mirror the subsequent half cycle of the tracking error signal.

30 8. (original) The optical disc drive of claim 7, wherein when the pick-up device is located within the off-track period related to the target track,

the corrected tracking error signal is approximately proportional to a distance between the pick-up device and the target track.

- 5 9. (original) The optical disc drive of claim 7, wherein when the pick-up device is located at the on-track period related to the target track, the corrected tracking error signal is the same as the tracking error signal.
- 10 10. (original) The optical disc drive of claim 7, wherein the signal correcting unit differentiates the location of the pick-up device according to a track cross signal.
- 15 11. (original) The optical disc drive of claim 10, wherein the track cross signal is a Radio Frequency Zero Cross (RFZC) signal.
- 20 12. (new) A method for track locking on an optical disc comprising a plurality of adjacent track periods, each track period comprising an on-track period and an off-track period, the on-track period comprising only one track, the method comprising:
- 25 driving a pick-up device;
detecting a location of the pick-up device and producing a tracking error signal;
producing a corrected tracking error signal when the pick-up device is located at a target track related
- 30 to the off-track period, the corrected tracking error signal comprising a first half cycle that is substantially the same as a first half cycle the

tracking error signal and a subsequent second half
cycle that is substantially a mirrored image of a
second half cycle of the tracking error signal; and
controlling the driving device to enable the pick-up
5 device to lock at the target track, according to the
corrected tracking error signal.